

Amendments to the Specification

Please replace the paragraph at page 32, line 6 with the following rewritten paragraph:

Referring to Fig. 8, a schematic and block diagrammatic illustration of the system at hand is presented. Represented generally at 110, the system is shown to include an excitation antenna 112 located in a plane 114 which, in general, will be located beneath the patient. A passive resonant sensor implant will have been located within the target tissue volume of the patient. An exemplary temperature sensing implant is represented at 116. Extending over and about the implant 116 is a sensor antenna 118, having a diameter of about 18 inches. Excitation antenna 112, may, for example, be provided as a single turn of 14 awg wire having a diameter of about 20 inches. Antenna 112 is seen coupled via cable 120 to the output of an excitation assembly represented at block 122. Assembly 122 functions to supply an excitation pulse of about one microsecond duration from a 1000 volt power supply. Accordingly, the excitation antenna 112 may carry a 40 amp peak current with a waveshape that is approximately one cycle of a damped sinusoid. In this regard, note that the high voltage power supply is represented at block 124 having a plus output line 126 extending to antenna 112 and a negative output line at 128. A high voltage storage capacitor function, C1 is located between lines 126 ~~424~~ and 128 as represented at line 130. Also represented at line 130 is a small sense resistor function, R1. Line 130 also is shown extending to a gate drive transformer 132 which receives a gating input at node, A, and functions to gate a high voltage transistor function Q1 into conduction. Note that one side of transistor Q1 is coupled with line 130, while the opposite side, represented at line 133, extends with steering diode D1 to a line 134 coupled to antenna 112. Line 134 additionally extends with steering diode D2 to line 130.

Please replace the paragraph at page 32, line 29 with the following rewritten paragraph:

A gate drive circuitry is represented at block 136 shown connected to line 130 ~~432~~ via line 138 and providing the earlier-noted gating pulse, A. Gate drive

circuitry 136 is actuated in response to a forward drive input represented at arrow 140. That input is derived at a fiberoptic interface circuit represented at block 142 which is seen responsive to an optical drive input represented at dashed arrow 144. An interface optical output is represented at dashed arrow 146. In operation, when a forward drive gating pulse is applied to transistor Q1 for about one microsecond current flows from the storage capacitor function C1 through excitation antenna 112, then returns through diode D1, transistor function Q1 and returns to the storage capacitor function C1. That represents the forward half-cycle of excitation of antenna 112. When transistor Q1 is turned off, current flows through diode D2, through excitation antenna 112 and returns to the capacitor function C1. The result is a single cycle sinewave excitation. Sense antenna 118 is blocked during this excitation interval, inasmuch as the excitation field generated from excitation antenna 112 will tend to couple with antenna 118. Antenna 118, which may be provided as a paired wire device is connected through cable 148 to a detector and control function represented at block 150. Function 150 includes fiberoptic interface circuitry represented at block 152. Circuitry 152 is seen to be interactively associated with optical transmission arrows 144 and 146 and is powered as represented at arrow 154 from a low voltage linear power supply represented at block 156. Power supply 156 additionally powers a timing and control logic function shown at block 158 as represented at arrow 160. Function 158 serves to carry out appropriate logic including the duration of the excitation pulse, delays before the enablement of antenna 118 and the like.